UNSW SYDNEY

Minor in Nuclear Engineering

Want to help solve the biggest problems facing the world?

With a UNSW Minor in Nuclear Engineering, you will be able to apply your main degree expertise to work on energy technology, material improvements, defence systems, and crucial nuclear medicine for Australia.

With over 80% of the worlds irradiated silicon for high-performance electronics made in the Australian OPAL reactor, and 700,000 patient procedures each year facilitated by ANSTO-produced nuclear medicine, the nuclear engineering workforce makes a tangible difference in the lives of Australians.

The nuclear engineering minor gives you a career pathway to contribute to the exciting engineering, science, and leadership challenges around nuclear technology, or to expertly discuss the role, implications, benefits, and drawbacks of nuclear technologies within society for any future career.

Program Information

The Nuclear Engineering Minor aims to provide undergraduate students with a foundation in nuclear engineering, in preparation for entering the growing nuclear workforce.

The minor specialisation requires 24 Units of Credit, shared with courses taken for other program requirements.

The following majors can complete the nuclear minor within their program requirements:

- Aerospace Engineering
- Chemical Engineering
- Chemical Product Engineering
- Civil Engineering
- Environmental Engineering
- Electrical Engineering
- Mechanical and Manufacturing Engineering
- Mechanical Engineering
- Mechatronic Engineering

UNSW researcher Dr. Jennifer Stansby applies her nuclear knowledge to develop better materials for nuclear fuels and clean energy generation.

The minor enables you to combine expertise from traditional engineering disciplines with specialist knowledge to solve the challenges facing nuclear technology. You will become nuclear-conversant, learning the underlying theory behind nuclear engineering techniques, explore the role of nuclear energy in a low-carbon future, and gain an appreciation for the writing and enforcement of regulations.

Full scholarships available

The Defence Nuclear Science and Engineering Undergraduate Scholarship supports:

- **High-performing STEM students** studying disciplines relevant to nuclear science and engineering.
- Candidates for **up to 3 years of study** who have an interest in a career in Defence.
- Applicants **must be Australian Citizens** who are studying at undergraduate level.
- The scholarship has a **value of $20,000** per student per annum.

High-demand domestic and global careers

The Department of Defence estimates Australia's nuclear workforce must grow to 10,000-30,000 jobs to meet the requirements of the AUKUS deal.

Government initiatives to strengthen and broaden Australia's industrial base require an expansion of domestic nuclear capabilities, for sectors such as nuclear medicine production,

Learn at Australia's top engineering university

1st in Australia
QS World University Rankings

Top 20 Worldwide
QS World University Rankings, 2023

Most Employable Graduates
AFR Top 100 Future Leaders Award 2020 - 2023

Leading Innovations
UNSW Sydney has ranked number one nationally for the greatest number of new start-up and spin-out companies founded in 2021 through technology developed at UNSW

aerospace applications, radioactive waste management, safeguards and safety regulators, manufacturing, and engineering consulting.

Abroad, the International Energy Agency estimates that with all current climate pledges, 120 GW of new nuclear capacity is needed and another 300 GW of new reactors are projected to be built between 2030 and 2050 in over 30 countries, placing engineering graduates with exposure to nuclear knowledge in high demand globally.

Prepare for a career in high-tech industries

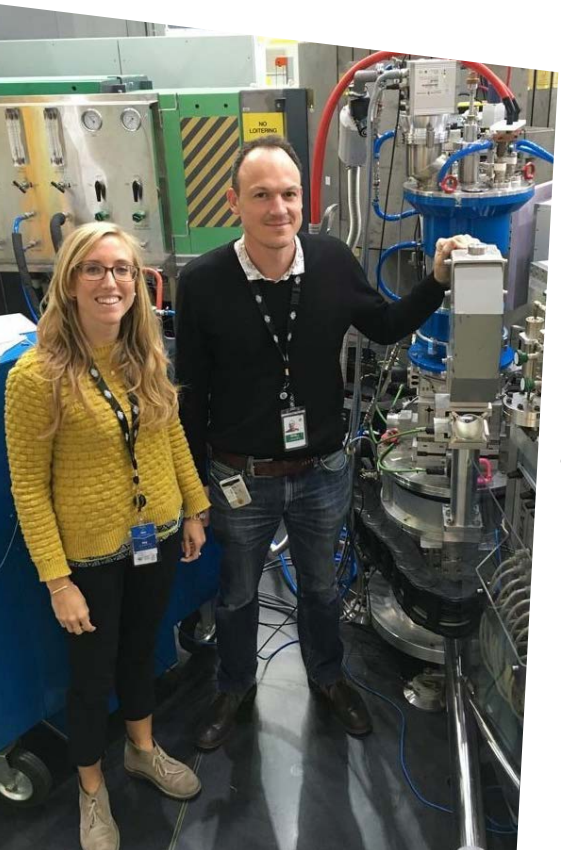
Engineering graduates with a minor in nuclear engineering are sought after in high-tech industries including:

- Fusion
- Advanced manufacturing
- Energy
- Medicine
- Defence
- Mining & Resources
- Aerospace
- Nuclear Science

Learn skills and knowledge that will set you apart

You'll learn nuclear specific skills that complement your broader engineering education such as:

- The uranium and thorium fuel cycle
- Radioactive waste storage methods
- Nuclear security and safeguards
- Societal, economic, and environmental considerations of nuclear technologies
- Nuclear reactor theory and design
- Radiation and human factors in safety



"Nuclear engineering is one of the most interdisciplinary fields that draws on a wide range of engineering skills. With nuclear becoming a global decarbonisation tool, students starting now get a head start for a fulfilling career."

Dr. Edward Obbard, Nuclear Program Coordinator

How to apply

Current Students

You can self-declare into the Minor of Nuclear Engineering at:

https://www.student.unsw.edu.au/stream

Future Domestic Students

Applications for undergraduate study from domestic students are processed by the Universities Admissions Centre (UAC).

To study the Nuclear Engineering Minor you will need to select one of the relevant Bachelor of Engineering (Hons) majors as one of your preferences in your UAC application.

Future International Students

Applications for international students are submitted via our Apply Online service.

To study the Nuclear Engineering Minor, you will need to select 3707 Bachelor of Engineering (Hons) as your preferred degree.

International students studying an Australian qualification will need to apply through the Universities Admissions Centre (UAC).

Further details at:

https://www.handbook.unsw.edu.au/undergraduate/specialisations/2024/ENGGF2

For more information about the minor, contact:

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